

IRRIGATION ARRANGEMENTS IN HENDERSON COUNTY, NORTH CAROLINA

James E. Martin, Jr.
& Milton S. Heath, Jr.

INSTITUTE OF GOVERNMENT
UNIVERSITY OF NORTH CAROLINA

**U.N.C. WATER
RESOURCE PAPERS
Number 11**



Digitized by the Internet Archive
in 2013

<http://archive.org/details/irrigationarrang11mart>

IRRIGATION ARRANGEMENTS IN
HENDERSON COUNTY, NORTH CAROLINA

A Report of an Irrigation Survey in Henderson
County, Conducted in the Summer of 1962

* * * * *

Assisted by a grant from the
United States Public Health Service

James E. Martin, Jr., Research Assistant
and

Milton S. Heath, Jr., Assistant Director
Institute of Government

University of North Carolina

Chapel Hill February 1963

U.N.C. WATER RESOURCE PAPERS

Number 11.

List of publications in U.N.C. Water
Resource Papers series

U.N.C. Water Resource Papers is a series of research reports sponsored by the Institute of Government and the Department of Environmental Sciences and Engineering. The Water Resource Papers listed below can be purchased (so long as copies are available) from the Institute of Government, Chapel Hill, N. C. Information concerning papers planned for future publication will be furnished on request.

<u>Paper No.</u>	<u>Price</u>
1.--Milton S. Heath, Jr., Arrangements for Sources of Water: Introduction	25¢
2.--Milton S. Heath, Jr. and James E. Martin, Jr., Survey of Irrigation in Selected North Carolina Counties, 1962	25¢
3.--James E. Martin, Jr. and Milton S. Heath, Jr., Irrigation Arrangements in Alamance County, North Carolina	10¢
4.--James E. Martin, Jr. and Milton S. Heath, Jr., Irrigation Arrangements in Davidson County, North Carolina	10¢
5.--James E. Martin, Jr. and Milton S. Heath, Jr., Irrigation Arrangements in Forsyth County, North Carolina	10¢
6.--James E. Martin, Jr. and Milton S. Heath, Jr., Irrigation Arrangements in Guilford County, North Carolina	10¢
7.--James E. Martin, Jr. and Milton S. Heath, Jr., Irrigation Arrangements in Rockingham County, North Carolina	10¢
8.--James E. Martin, Jr. and Milton S. Heath, Jr., Irrigation Arrangements in Warren County, North Carolina	10¢
9.--James E. Martin, Jr. and Milton S. Heath, Jr., Irrigation Arrangements in Pender and New Hanover Counties, North Carolina	10¢
10.--James E. Martin, Jr. and Milton S. Heath, Jr., Irrigation Arrangements in Buncombe County, North Carolina	10¢
11.--James E. Martin, Jr. and Milton S. Heath, Jr., Irrigation Arrangements in Henderson County, North Carolina	10¢
12.--James E. Martin, Jr. and Milton S. Heath, Jr., Irrigation Arrangements in Transylvania County, North Carolina	10¢

* * * * *

Note: Water Resource Papers 1-12 inclusive may be purchased as a set for \$1.00.

Introduction

This is one of a group of reports of irrigation surveys made in the summer of 1962 covering eleven North Carolina counties. The surveys are part of a research project concerning arrangements by water users in selected areas of North Carolina to secure water sources. Conducting the surveys was James E. Martin, Jr., currently a second-year law student at the University of North Carolina, under the supervision of Milton S. Heath, Jr.*

Briefly, the purpose of the irrigation surveys is to examine and analyze the following factors:

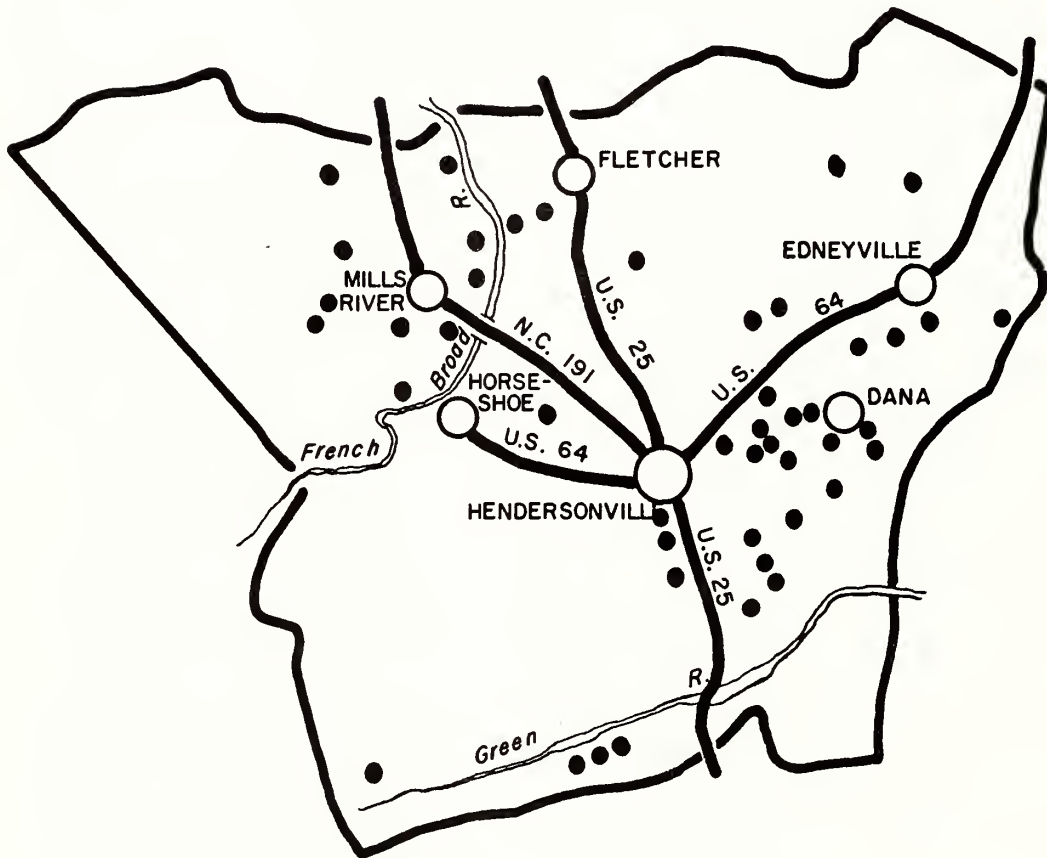
- .The nature and magnitude of farm irrigation in selected areas.
- .The types of crops irrigated.
- .The sources of water used.
- .The legal arrangements made by the irrigators to secure their sources of water, including purchase of land or water rights, agreements among irrigators and other water users concerning water use, permits required, etc.
- .Any disputes that may have arisen over sources of water affecting these irrigators, and the outcome of the disputes.

With this and other information developed through the research project, it is hoped that an accurate evaluation can be made of the operation of the existing structure of laws and political institutions affecting water use, of its weaknesses and strengths, and of its impact on water resource development.

The procedures followed in this survey are described in detail by Water Resource Paper No. 2. Briefly, the known irrigators were identified with the assistance of county agents and Soil Conservation Service personnel, and then were personally interviewed. A prepared questionnaire was used as a point of departure for the interviews.

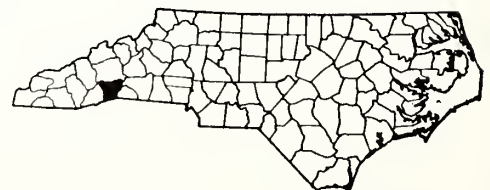
*Water Resource Paper No. 1 contains a description of the over-all research project. Water Resource Paper No. 2 summarizes the 1962 irrigation surveys and reviews the procedures followed on the surveys.

IRRIGATION IN HENDERSON COUNTY



Key:

- REPRESENTS AN ACTIVE IRRIGATOR WHO WAS CONTACTED IN THIS SURVEY DURING THE SUMMER OF 1962.



General Review of Irrigation.
in Henderson County

A majority of Henderson County's irrigators are truck farmers. The truck crops are farmed in the fertile valleys near the numerous streams and rivers. On higher ground there is less farming; here the apple orchards and pastures prevail. Much of the county is too mountainous for any type of farming.

Most of the apple orchards are found in the northeastern section of the county where there is a plateau of gently rolling hills. The communities of Edneyville and Dana are the larger centers. In this area there is also a considerable amount of truck farming in the bottom lands.

In the northwestern section of the county centered around the communities of Horseshoe, Mills River, and Fletcher there are large truck farming and flower operations. Such crops as cabbage, pole beans, tomatoes, and gladiolas are favorites. Squash, egg plant, radishes, bunch beans, artichokes and other specialty crops may also be found in lesser quantities. Some truck farming is also found in the southwestern corner of the county along the Green River; however, due to the mountainous nature of the area this operation is on a much smaller scale than elsewhere in the county.

Most of the irrigating in the county is done by the truck farmers on rented land. There is not widespread use of irrigation in the apple orchards.

The county generally has sufficient water for irrigation, though in the northeastern section there were reports of streams drying up during droughts. Apparently the water situation worsens as one moves to the higher ground. There were no reports of legal problems or the necessity of purchasing water rights, or easements for irrigation purposes. The number of irrigators has apparently increased considerably since the droughts of '51 and '52. In drought periods this might tax the existing water sources.

Summarized Results of Survey

1. Extent of coverage

Suggested irrigators (SCS Unit Conservationist and County Extension Chairman)--54

Farms reporting irrigation in 1959 U. S. Census of Agriculture--19

Persons contacted--60

Active irrigators contacted--44

Estimated number of irrigators in Henderson County (authors' estimate)--55

2. Time required for conduct of survey in Henderson County

5 days for interviewing irrigators and others

3. Water sources

Ponds--11

Continuous Flow Ponds--11

Streams--37

Combination of Sources (ponds, streams)--4

Note: The information concerning water sources, including the classification of types of ponds, was derived from the irrigators themselves, not from personal inspection by the authors. An explanation of the terminology used here--e.g., "continuous flow ponds"--will be found in U.N.C. Water Resource Paper No. 2.

4. Types of crops

Truck crops (35 farms)

Largest farm--400 acres

Smallest farm--1 acre

Average farm--44.33 acres

Note: Many of the larger truck farmers have their operations scattered throughout Henderson County.

Flowers (3 farms: 50, 25, and 30 acres respectively)

Pasture (5 farms: 17, 350, 50, 100, and 20 acres respectively)

Apples (3 orchards: 25, 30, and 40 acres respectively)

It should be noted that the figures given above reflect the acreage irrigated and not necessarily the actual acreage of the respective farm. There are two irrigators who use their systems both in their orchards and on their truck farms.

5. Water usage

There are no reliable data available concerning the amount of water used for irrigation in the area and no mechanical measuring devices are in use. (See Water Resource Paper No. 2 for further comment.)

6. Expansion

40 irrigators have no specific expansion plans. 4 irrigators plan to expand either when funds are available or in accord with demand for crops.

7. Disputes over water, etc.

None reported

8. Purchase of water rights or agreements concerning irrigation

None reported

9. Acquisition of riparian lands, easements, etc.

None reported

10. Recent irrigation trends

Judging from the fact that 31 irrigators have used their systems either in 1961 or 1962, it seems apparent that irrigation is being practiced as a routine measure even during short dry periods. From interviews with persons not owning systems, it was learned that rentals are frequent when systems are available during extremely dry periods. There were, however, no reported rentals for 1961-62.

Acknowledgements

SCS Unit Conservationist John Brown and Henderson County Extension Chairman D. W. Dennett gave us invaluable help in identifying and locating irrigators. We are very grateful to them and to State Conservationist Richard M. Dailey and Howard Ellis of the State College Department of Engineering Extension for their usual generous co-operation.

The map at page 3 was prepared by Charles Nakamura of the Institute of Government.

